

**New Claims:**

1. A device for force measurement in dynamic tensile experiments on material samples, comprising a force measuring cell, in which at least one force measuring sensor is integrated and which is executed one piece with a first connecting structure, with the material sample being connectable in a firm, detachable manner via said connecting structure with said force measuring cell, which is provided with a second connecting structure, which is disposed opposite said first connecting structure and via which said force measuring cell is attachable to a fixed back-rest **wherein** at least two force measuring sensors are disposed on said force measuring cell spaced from said first connecting structure in such a manner that the distance between said at least two force measuring sensors and said first connecting structure, and thus between the former and the tensile sample, is smaller than the distance between said at least two force measuring sensors and said second connecting structure, said force measuring cell is provided with a housing or with two pressure plates, which has, respectively have, a thinner wall thickness in the region of said force measuring sensors than in the other housing region or other regions of said pressure plates, and said force measuring cell has more a stable type of construction regarding elastic deformability in the region of said second connecting structure than in the region of said first connecting structure and said at least two force measuring sensors.
2. The device according to claim 1, **wherein** said connecting structure is a screw connection, having provided on said force measuring cell a thread contour into which a counter thread provided on the material sample is insert able in a firm, detachable manner.
3. The device according to claim 1, **wherein** said connecting structure is a flange or bolt connection, and on the material sample a corresponding counter flange is provided, respectively a connecting contour corresponding to said bolt connection.

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4. The device according to one of the claims 1 to 3,  
**wherein** said two pressure plates of said force measuring cell can be pressed against each other by means of firm, detachable pressure means  
the tensile sample can be pressed between said pressure plates with force, and  
said at least one force measuring sensor is disposed on said pressure plates at a distance from said pressure means.
5. The device according to one of the claims 1 to 4,  
**wherein** said housing is designed axially symmetrical to a axis of symmetry along which the tensile force acts on said force measuring cell via said material sample.
6. The device according to claim 5,  
**wherein** said at least two force measuring sensors are applied on said housing in a symmetrical arrangement relative to said axis of symmetry.
7. The device according to claim 1 to 6,  
**wherein** said force measuring cell contains titanium.